

With respect to claims 33 and 38, the dimensions of the particles and granules are indeed permitted to be the same. As described in the Specification, granular particles are obtained following the granulation process. They are subsequently dried, and are then referred to as dried granules. Since during the drying process, the physical dimensions of the granular particles need not change significantly, the granules and granular particles can have the same dimensions.

Claim 40 has been cancelled. It is noted however that MPEP section 706.03(k) is not law, and there is no requirement of law (section 101) that pertains to presentation of allegedly duplicate **claims** within one patent.

The art rejections

The Examiner has rejected claims 27, 29, 30-32, and 37 under section 102(e) over Rhodes et al. (U.S. Patent 5,759,562). The unnecessary overlap with the terminology of this disclosure has been avoided by inserting into claims 27, 29 and 30 the limitation that the involved fungal cells are dead cells. Cell death may occur, for example, according to the processes of the present invention during pasteurization steps, prior to extrusion of the biomass (see the Specification at page 9, line 36 to page 10, line 14). In contrast, the fungal cells in *Rhodes et al.* are required to live in order to sporulate and then kill insects when applied in the soil.

The Examiner has rejected claims 28-33 and 30-40 under section 103(a) over *Rhodes et al.* taken with *Huang et al.*, *Barclay*, and *Kyle*. The rejection, based on combination of four (4) references, is respectfully traversed. Attention is first directed to the attached copy of a recently decided case of the Court of Appeals for the Federal Circuit, which discusses proper ways in

which references may be combined for art rejections, and requirements of law regarding *prima facie* obviousness rejections (*In re Denis Rouffet et al.* slip opinion 97-1492, decided July 15, 1998). The Examiner is asked to review the paragraph of *In re Rouffet* that bridges pages 5-6 of the reported case. It is respectfully observed that all the Office has presently done is identify possible elements of the present invention in the prior art, and then applied hindsight to reconstruct or "predict" Applicants' inventions. As stated by the Court,

"To prevent the use of hindsight based on the invention to defeat patentability of the invention, this court requires the examiner to show a motivation to combine the references that create the case of obviousness. In other words, the examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the prior art references for combination in the manner claimed." (Id at 6).

It is respectfully stated that the Office cannot possibly meet this requirement where the four cited references are in different fields, and involve unrelated problems, goals and solutions, it being therefore highly unlikely that there could be a hypothetical practitioner who would apply all of these divergent teachings, even if they could lead to Applicants' inventions.

In particular, the present application teaches numerous advantages of granulation techniques in order to efficiently permit extraction of desired compounds in biomass or fungal cell materials. According to the practice of the present invention, granular particles are formed from biomass. Following drying of the particles, desired compounds are extracted therefrom. Such granular structures possess numerous advantages. The resultant dried granules permit maximum solvent access for extraction while at the same time avoiding fines or dust from milling that may impede filtration. Granules permit more efficient extractions than larger particles such as flakes. (see the Specification at page 4, lines 6-32; page 7, line 6; page 13, lines 29-32; page 20, lines 33-36).

Additionally, damage to fungal cells is minimized when granule formulations are prepared such as by extrusion, and there is generally no need to disrupt cells prior to extraction

of desired compounds. (see page 5, lines 7-9; page 6, lines 10-17; page 14, lines 8-11; page 21, line 7; page 7, line10).

None of these advantages (or other advantages referred to in the Specification) are at all evident from the *Rhodes et al.* reference, nor are derived upon combination with the other references. First, the *Rhodes et al.* reference is directed to the entirely different problem of formulating live fungal cells so that they can be applied to kill insects in soil. Although a granulated form may be present, it is used only so that a nutrient can be co-applied with the fungus, and the cited reference is not at all directed to the extraction of compounds from fungal cell granules. Given that the *Rhodes et al.* reference is directed to entirely different results in an entirely separate field, and reference to granulation as described therein does not teach any of the advantages of the present invention -- or for the purposes of the present invention -- , it is difficult to imagine why the skilled practitioner of the present art would even look to this reference.

The remaining references are readily dealt with. Although the *Kyle* reference deals with extraction of compounds from biomass, such extraction is directly from the biomass, there being no mention or use of granule formulations. It appears also that the Examiner may have misread the *Huang* reference. *Huang* is directed the treatment of a proteinaceous mass of fungal fibers by rapid dielectric heating in order to reduce the amount of nucleic acid therein. The resultant product has the texture and chewability of meat. The production of edible meat substitutes suggests nothing to the practitioner of the present art which is directed to extraction of useful compounds. It need not be elaborated that no person skilled in any field of art would be motivated to combine *Rhodes et al.* and *Huang*.

The *Barclay* reference does describe preparation of granules of cells - but those that always include other solids such as ground grain. The granules are used for animal feed and there is no suggestion of extraction of compounds from the granules. Since the granules are different in composition, and are prepared for entirely different reasons, it is not surprising that this reference fails to teach any of the advantages associated with the processes and compositions of the present invention.

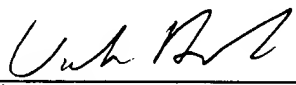
Conclusion

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, Applicants petition for any required relief including extensions of time and authorize the Assistant Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket no. 246152006900. However, the Assistant Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Respectfully submitted,

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By:



E. Victor Donahue, Ph.D.
Registration No. 35,492
Attorney for Applicants

Morrison & Foerster LLP
2000 Pennsylvania Avenue, N.W.
Washington, D.C. 20006-1888
Telephone: (202) 887-1546
Facsimile: (202) 887-0763